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Sent: 3/19/2019 2:43:34 PM
To: ORD-ALL Feds and NonFeds and RSLs [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2c735272eef941588aefd9a05ed28823-ORD-ALL Feds and NonFeds and RSLs]
CC: Harris-Young, Dawn [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1352e37302cf4eb78a64c69a108b46e5-Young, Dawn]; Barnett, Felicia [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5773b45cae5142fe950861dd6146f1e9-Barnett, Felicia]; Carter, Bobbi [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f16dcafe85fc418ebd1651be2e8ab82d-Carter, Bobbi]; Gettle, Jeaneanne [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d8e72aa7e1894faea44006fd9f22b637-Gettle, Jeaneanne]; Taylor, Dawn [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=b984d00ec06544e498ee5d986f97047c-Taylor, Dawn]; Klinger, Adam [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=346d5466632f4967adc7169c8d2ce4fd-Klinger, Adam]; Liljegren, Jennifer [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c7098a838cd34f75b8878571fe95d939-JLiljegr]; Pollard, Solomon [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=16cdf700f8024145847a2770b84abae3-Pollard, Solomon]; Clarage, Meredith [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ee9504437be545489f518710a5e80e68-Clarage, Meredith]; Fan, Shirley [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=cdeba1df9599435cb7401d0a65be7cda-Sfan02]; Peffers, Mel [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1b6116fbb41448b38b3caefc882165fe-Peffers, Melissa]; Crk, Tanja [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=fccf9b9519484e8f88e90d3573253817-Tanja Crk]
Subject: Weekly Compass: March 19, 2019

EPA

WEEKLY compass

Weekly Update: 3/19/2019

Welcome to the Weekly Compass, your gateway to information about recent and upcoming ORD activities. If you have ideas for the Weekly Compass, please send them to the editors. To see past issues, visit the archive on ORD@work.

Weekly Note from Jennifer

ORDers – Thank you for submitting questions about the reorg. A high level overview of earlier feedback is now available here. We are still on track to have our next town hall meeting in April. I look forward to "seeing" you all there!

Next week, we are looking forward to hosting Administrator Wheeler in Cincinnati. He'll have a brief tour of the facility and conduct a town hall. I encourage everyone in Cincinnati to attend; a special thanks to folks who are organizing the visit.

This week we are deploying the EPA Lean Management System (ELMS) in RTP. During this initial deployment, 12 ORD ELMS champions and nine teams will be trained. These teams, in turn, will train additional teams across ORD with a goal of ELMS deployment in 80% of EPA by 2020. The implementation of Lean Management will provide opportunities for continuous improvement of ORD operations while delivering more value to our partners and improved mission outcomes.

Keep up the great work, as always! *–Jennifer*

Quick Updates

- Don't forget to check out the open opportunities on Talent Hub!
- You can read the This Week @ EPA newsletter here.
- Upcoming Webinars:
  - EPA Tools and Resources Webinar: Cost-effective Treatment Technologies for Removing CECs including PFAS: Wednesday, March 20 from 3:00 - 4:00 ET
  - CSS Science Webinar Series: Cross-laboratory study on comparative strengths and weaknesses of non-targeted analysis, Tuesday, March 26 from 1:00 to 2:00 ET
  - Small Systems Monthly Webinar Series: Tuesday, March 26 from 3:00 to 4:00 ET

Photos of the Week: NOAA visits RTP, EPA goes to SOT

In the Lab:

Superfund and Technology Liaisons Meeting

Last week, OSP's Superfund and Technology Liaisons (STLs), along with OSP's Regional Science Program headquarters staff, held an in-person meeting at ORD's Corvallis facility to discuss STL program goals and priorities. The meeting included presentations from STLs about contaminated site issues in their regions, presentations from NHEERL Western Ecology Division scientists, discussions about opportunities for collaboration on contaminated site science issues, lab tours, and a business/planning session.

OSP Superfund and Technology Liaisons and headquarters management and staff outside the ORD facility in Newport, OR.

Lake Sensor Deployment in Oxford, Ohio

This week, EPA's Region 3 Dive Team will assist NRMRL's Jake Beaulieu and Sarah Waldo with the deployment of air (flux tower) and water quality sensors in Acton Lake, a small reservoir near Oxford, Ohio. The sensors will be used to generate continuous records of methane and carbon dioxide exchange between the lake and atmosphere. This effort is part of a larger study under SSWR and AE to improve the Inventory of US Greenhouse Gas Emissions and Sinks, a report compiled annually by EPA under the terms of the 1994 United Nations Framework Convention on Climate Change.

Journal Article: Pipe Scale Composition

NRMRL's Jennifer Tully, Michael DeSantis, and Michael Schock published the paper, "Water quality–pipe deposit relationships in Midwestern lead pipes," in the American Water Works Association's journal *Water Science*. This study summarizes the results of a pipe scale study that compared the observed and the predicted phases of compound and elemental compositions of pipes. This work was conducted under SSWR with support from the RARE program.

Published Report: Coagulant and Sorbent Efficacy in Removing Mercury

NRMRL's Paul Randall and researchers at the U.S. Geological Survey published a report, "Coagulant and Sorbent Efficacy in Removing Mercury from Surface Waters in the Cache Creek Watershed, California." Cache Creek is contaminated with mercury from several sources, including historical mercury and gold mines, native mercury in the soils, and active mineral springs. EPA and USGS conducted laboratory experiments on the use of coagulants and sorbents to immobilize Hg in water samples from high-concentration sources in the Cache Creek watershed.

New Version of CompTox Chemicals Dashboard Released

This release expands the number of substances by ~110k thereby providing access to ~875k chemicals total. This release also brings into the dashboard all high-throughput screening data from the new data release recently made public by the National Center of Computational Toxicology. In order to fully support the inclusion of these new data, a number of user-interface enhancements and new improved navigation functionality has been introduced.

New Oregon Coast VELMA Community of Practice

As part of the state's coastal salmon recovery program, the Oregon Department of Fish and Wildlife (ODFW) is setting up applications of EPA's Visualizing Ecosystem Land Management Assessments (VELMA) eco-hydrological model for all major Oregon Coast watersheds. VELMA helps assess the effectiveness of green infrastructure (GI) options for improving water quality, and also quantifies how different GI strategies affect the ecosystem's capacity to simultaneously provide co-benefits, such as clean water, flood control, and fish and wildlife habitat. ODFW is open to sharing their VELMA watershed applications with any who might find them useful for their own watershed improvement goals. To support this, NHEERL's Bob McKane is establishing an Oregon Coast VELMA Community of Practice. The first conference call of the group is this week and so far includes ODFW, Oregon Watershed Enhancement Board, and the U.S. Bureau of Land Management, along with several non-governmental organizations and their Oregon Coast community partners.

Publication: High-Throughput Video Processing of Heart Rate Responses in Zebrafish

NHEERL scientists, funded in part by ORD's Pathfinder Innovation Project awards, have developed a new open software platform for high-throughput derivation of heart rate in wild-type zebrafish. The platform is capable of quickly processing thousands of videos and is ideal for multi-well platforms with multiple fish per well. It is described in a recent article "High-Throughput Video Processing of Heart Rate Responses in Multiple Wild-type Embryonic Zebrafish per Imaging Field," and may expedite cardiotoxicity screening of environmental contaminants and complex chemical mixtures.

Book Publication: Toxicoepigenetics

NHEERL's Dr. Shaun D. McCullough is the Co-Editor, with Dr. Dana Dolinoy from the University of Michigan, of the recently-published book Toxicoepigenetics: Core Principles and Practices. The book provides a comprehensive overview of the epigenome and a foundation for the incorporation of epigenetics into a wide-range of toxicology research programs, as well as the consideration of epigenetic data in human health risk assessment.

Mayor of Auburn, ME Meeting with EPA on Harmful Algal Bloom Treatment

Last week, Mayor Jason Levesque of Auburn, Maine, visited EPA Headquarters to discuss harmful algal blooms and the potential for constructing a filtration plan on Lake Auburn. Nutrients, chlorophyll A, and turbidity levels have increased in the lake and some microcystins were found previously. The City of Auburn, which draws its drinking water from this lake, has a waiver for filtration so there is concern regarding control if a bloom occurs. Meeting participants included US Senator Susan Collins' legislative correspondents, ORD, OW, Region 1, and OCIR.

Technical Support for Corrosion Control to Pittsburgh, PA.

OW requested NRMRL's Darren Lytle be available to provide advice as needed to the State of Pennsylvania and the City of Pittsburgh on their corrosion control efforts. This month, Darren had a call with staff from the Pittsburgh water system. They shared details regarding their corrosion control program, such as pipe rig studies, lead service line removal program, and plans to begin adding orthophosphate to their system. Darren offered ORD's technical expertise on any matters regarding corrosion control and distribution system water, should they request it. The City will share its corrosion control plan for adding orthophosphate to the system, and Darren will provide feedback on the plan.

ORD/NERL Lead Science Work with Regions

Region 5's Regional Administrator Cathy Strepp announced her support for the work being done by ORD/NERL and Region 5 to provide data and analyses for Regions and States to use toward reducing childhood lead exposures, especially in vulnerable communities. Region 5 is planning on discussing the approach and data analysis with Ohio and other Region 5 states. This work is part of the Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts.The collaboration with Region 5 will be important in helping ORD/NERL share the approach with other Regions and can serve as a model for forming partnerships to help protect children from lead exposure.

In addition, Region 7 has asked NERL for technical assistance in taking a scientific, evidence-based approach to locating disproportionately impacted communities and identifying primary exposure factors that contribute to blood lead levels. This information will help Region 7 make decisions and identify research needs to better help communities impacted by lead exposure.

6th Global Environment Outlook (GEO-6) Report

Last week, UN Environment released the 6th Global Environment Outlook (GEO-6), a periodic review of the state of the environment and the outlook for the future. Among the 146 authors who contributed to the 800-page report are NCER's Terry Keating and Serena Chung, and OAR's Phil Dickerson (OAQPS), each of whom contributed to the sections related to air pollution and atmospheric composition. The report reviews the state and trends, existing policies, and future scenarios affecting air, land, freshwater, oceans, and biodiversity. Following the theme, "Healthy Planet, Healthy People," the report highlights the importance of environmental quality for human health and well-being. The report concludes with an urgent call for bold, sustainable, and inclusive action to integrate environmental, economic, and social decisions toward achieving the internationally-agreed Sustainable Development Goals (SDGs).

SBIR Progress Update

Advanced Recovery and Recycling, LLC, a small business out of Syracuse, New York, recently concluded their Phase II project with the support of EPA's SBIR Program. During Phase II, the company, working to address electronic waste, brought to life a fully operational version of their concept from Phase I, the D2000 Depopulator. The Depopulator is an innovative patented approach to the rapid, low cost removal of electronic parts from printed circuit boards without the use of chemicals. By teaming up with the local company, Roboshop, they were able to upgrade their design and successfully fabricate a market-ready version of the Depopulator. They have also

created a website that includes a spreadsheet to enable potential customers to calculate the actual value the Depopulator would add to their process. The site includes a video of the machine in operation. Additionally, the company has had a booth at the E-Scrap Trade Show and is seeing significant interest from potential domestic and international customers.

P3 Student Team Update

EPA People, Prosperity and the Planet (P3) student design competition participants from North Dakota State University recently concluded their research and summarized the findings for their Phase II project- A Novel Dual Purpose Solar Collector Design. The team sought to develop a solar thermal collector that can collect energy from cold as well as heat and potentially replace conventional cooling towers or dry coolers. Their innovative design replaces the traditional single-pane glass cover for a double-pane, allowing liquid flowing between the panes to lose heat through long-wave radiation and convection. The team's successful development of the solar thermal collector could lead to increased renewable energy use for cooling towers or dry coolers. This has environmental and public health impacts because the design could reduce or eliminate some of the negative outcomes associated with conventional cooling towers such as more efficient use of condenser water and the possibility of Legionnaires' disease.

Grantee Publication: STAR researcher

Benjamin F. Hobbs recently published an article in Environmental Modelling & Software discussing their research on a new methodology for optimizing Green Infrastructure and adaptive stormwater management. The proposed method, based on Bayesian learning, accounts for projected information gains and decision makers' objectives and willingness to accept risks. This method is the first to including risk aversion and learning into dynamic optimization models for adaptive stormwater management. The model would provide improved guidance for Green Infrastructure practices, investment timing and amount, risks of failing to meet management goals and maximization of benefits.

Grantee Publication: Racial-Ethnic Disparities in Air Pollution Exposure

Inequity in consumption of goods and services adds to racial–ethnic disparities in air pollution exposure according to a new study led ACE Center researcher Jason, Hill and published in *Proceedings of the National Academy of Sciences*. The new study shows that, in the United States, PM2.5 exposure is disproportionately caused by consumption of goods and services mainly by the non-Hispanic white majority, but disproportionately inhaled by black and Hispanic minorities. Specifically, the study estimates that non-Hispanic whites experience ~17% less air pollution exposure than is caused by their consumption. Blacks and Hispanics on average experience 56% and 63% higher exposure, respectively, relative to the exposure caused by their consumption. PM2.5 exposures declined by about 50% during 2003–2015 for all three racial–ethnic groups, but pollution inequity has remained high.

Grantee Publication: Organophosphates effect on Neurodevelopment in Children

Organophosphates are widely used pesticides shown to affect neurodevelopment in children. The Children's Center at University of California-Davis has established a unique cohort of mother-child pairs where the child had an increased risk of Autism Spectrum Disorder (ASD), a neurodevelopmental disorder observed with increased prevalence in the past decades in the United States. Mother's urine samples were collected during

pregnancy and tested for seven metabolites of organophosphate (OP) pesticides. At 3 years old, the cognitive functions of the children were assessed for ASD and other developmental concerns (ODC). In a recent publication in the *International Journal of Hygiene and Environmental Health*, researchers reported an increased risk of ASD among girls associated with elevated concentrations of an organophosphate metabolite. No association was found for boys. Given the relatively small sample size and low levels of urinary OP pesticide metabolites, the results illustrate the need for similar studies with larger sample sizes to address this on-going concern.

NHSRC and NRMRL Collaborate to Study Using an Unmanned Robot for Characterizing Contaminated Sites

A recent research collaboration between NHSRC's Timothy Boe and NRMRL's Brian Gullett resulted in the development of a specialized unmanned ground vehicle (UGV) for conducting monitoring and sampling missions. The vehicle is capable of navigating by manual control (via camera), GPS waypoints, or autonomously using specialized sensors and is capable traveling up to 4 mph while carrying a payload of 200 lbs. The UGV will soon be fitted with radiological sensors capable of detecting and measuring radiation with the purpose of characterizing contaminated sites. This solution will ultimately reduce or prevent radiation exposure to workers when conducting site assessments.

NHSRC and CMAD visited Coast Guard Base to Discuss Wide-Area Bio-Remediation Project

Last week, staff from NHSRC and OLEM/CMAD visited the US Coast Guard base in Portsmouth, VA to participate in the quarterly update meeting on the Analysis for Coastal Operational Resiliency (AnCOR) project, a collaborative effort between EPA and the Coast Guard to build preparedness for a wide-area biocontamination incident, focusing on remediation activities that would occur on a Coast Guard site. The meeting discussed planned activities for the project as well as potential venues for the field demonstration part of the project. EPA personnel were given a detailed tour of the Portsmouth facility, with a focus on the types of materials, spaces, and activities that occur at the site. AnCOR will culminate in fiscal year 2021 in a field study of involving the outdoor release of a biological agent surrogate and subsequent cleanup activities, including sampling, contaminant fate and transport, decontamination, waste management, and data management.

Article *on Legionella Pneumophila* Published in the Journal of *Applied and Environmental Microbiology*

NHSRC researchers have published a research article in the journal of *Applied and Environmental Microbiology* entitled, "Chlorine and Monochloramine Disinfection of *Legionella pneumophila* Colonizing Copper and Polyvinyl Chloride Drinking Water Biofilms". Due to the ecological importance of biofilms for pathogen survival, this study evaluated the efficacy of two common disinfectants, free chlorine and monochloramine, on *Legionella Pneumophila* colonizing mature (>1.5 year old) drinking water biofilms that were established on copper and PVC surfaces. This, and other related research, will provide a better understanding of *Legionella* ecological stability and survival and aid policy makers in the management of exposure risks to water-based pathogens within building water systems.

States Report: SHC Research Program Strategic Research Action Plan

On Thursday, ORD will host a webinar with states to present the Sustainable and

Healthy Communities (SHC) Research Program Strategic Research Action Plan (StRAP) for FY19-22. Invited organizations include the Environmental Council of the States (ECOS), the Association of State and Territorial Health Officials (ASTHO), and the Association of State and Territorial Solid Waste Management Officials (ASTSWMO). This hour long webinar will provide a high-level overview of the external review draft SHC StRAP and how the states could be further engaged in this process as we move towards refining research outputs and identifying specific science products that are responsive to EPA, state and tribal needs.

In the Office:

Enter Your FY19 Second Quarter Data into TechTracker by March 31

The second quarter for Fiscal Year 2019 ends on March 31. To ensure that all FY19 second quarter data is in the TechTracker system, we are asking that everyone create any remaining entries for applicable technical support performed during the second quarter (January 1, 2019 – March 31, 2019) or add hours to existing entries as necessary for additional time spent on those tasks in that timeframe. Please have all applicable technical support hours for second quarter work entered into TechTracker by March 31. If you have any questions, please contact your Program Support Coordinator or the general ORD TechTracker contact.

Travel Management Division (TMD) Intranet Site

- As part of an ongoing update, the TMD Intranet site has been reconfigured to move content to appropriate pages.
    - **Home Page** has general information and links about preparing travel.
    - **Travel Request Forms Page** has the links to create a Travel Authorization, voucher, add a new employee, request a travel card, etc. Once the request is filled out TMD staff will receive the work request to complete.
    - **International Travel Page** has international travel policies and information about the process.
    - **Travel Policies Page** has EPA travel policies posted so users do not have to search for them.
- TMD will be working throughout March and April to complete the intranet site update. When the updates are completed, TMD will send out a notification.

Pathfinder Innovation Projects Challenge Applications Due April 5th

Pathfinder Innovation Projects (PIPs) challenge EPA scientists to explore the leading edge of environmental science and work to turn innovations in science and technology into new environmental protection capabilities. This internal competition provides staff with additional research time and funding in pursuit of high-risk, high reward research ideas. Learn more about the challenge.

Have Questions about GSA Smart Pay 3 Travel Card?

Here are some frequently asked questions and other resources.

In the News:

EPA Awards Grants to 21 Student Teams for Innovative Technology Projects

Yesterday, EPA announced more than $300,000 in funding for 21 teams of undergraduate and graduate students across the country through its People, Prosperity, and the Planet (P3) grants program. This year's teams are focused on topics like investigating degradation and removal mechanisms for Polyfluoroalkyl Substances (PFAS) in water treatment, developing inexpensive technology to reduce indoor and outdoor air pollutants from woodstoves, building a model to quantify the extent of untreated raw sewage discharges from homes, and developing a sensor that can determine low levels of lead at terminal plumbing sources such as faucets. Read more in the HQ press release.

In the Community:

Sarajevo Embassy Science Fellow Activities

NERL's Kelly Witter is serving a ten-week detail as an Embassy Science Fellow in Sarajevo, Bosnia and Herzegovina. This week, the embassy's weekly newsletter included the following article about her work.

"What Can We Do to Improve the Environment?

Embassy Science Fellow Kelly Witter of the EPA visited the QSI International School of Sarajevo and led hands-on science activities with five classes to increase students' awareness about air quality and other environmental issues, and to encourage the students to think about what they can do to improve the environment and their own health. Two of the classes assembled particle sensors to learn how scientists collect data to help them understand air pollution. In another class, students talked about how generating electricity from fossil fuels contributes to air pollution and how they can make a difference by using energy efficient appliances and turning things off when they are done. In two of the younger classes, the students learned the impact of trash on our environment and how they can help by using less, reusing, recycling, and composting."

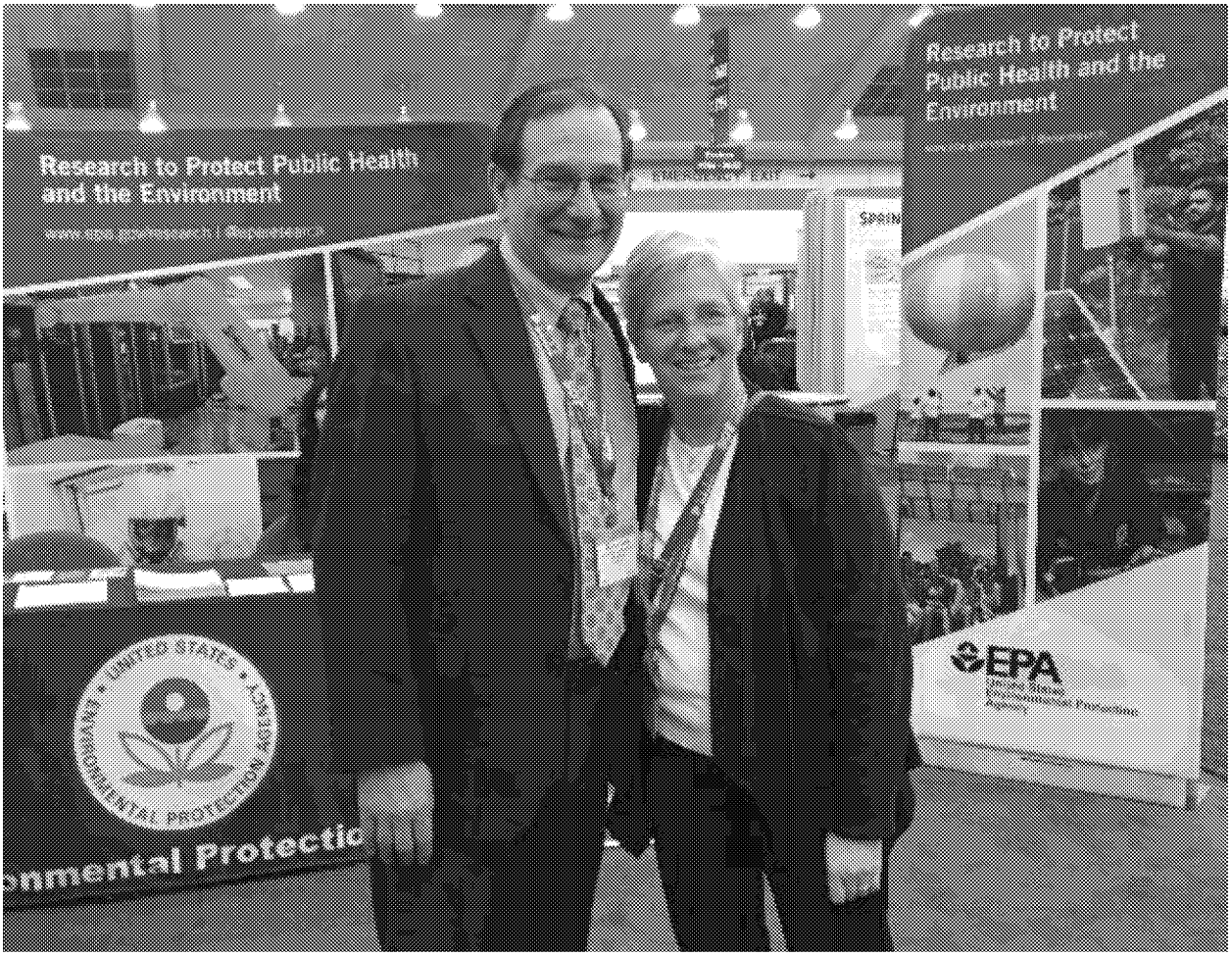
EPA-RTP STEM Outreach Program

- Today, EPA-RTP's Community Engagement and STEM Education Program will send judges to help at the Cary, N.C. Northwoods Elementary School's STEAM Fair. In the evening, the program will return to Northwoods Elementary to host a booth with hands-on activities at the school's science night.
- Tomorrow, EPA-RTP's Community Engagement and STEM Education Program will make its bi-weekly visit to W.G. Pearson Elementary School in Durham, N.C. to lead 4th grade students in a hands-on science activity as part of their STEM elective. This activity helps provide continuity for students at this school where more than 90% of the students receive free or reduced lunch.
- On Thursday and Friday, EPA-RTP's Community Engagement and STEM Education Program will lead an outdoor hands-on activity at Carrington Middle School in Durham. These two science days are being held at the school due to construction activities at Hub Farm.

- On Saturday, EPA-RTP's Community Engagement and STEM Education Program will speak about science communication and outreach on a panel at ComSciCon-Triangle 2019 Workshop being held at the North Carolina Museum of Natural Sciences in Raleigh, N.C.

Photos of the Week: NOAA visits RTP, EPA goes to SOT

NOAA scientists Eric Williams and Jim Roberts met with ORD scientists in RTP and Chapel Hill to build connections around wildland fire research. They took a tour of labs, including the tube furnace (pictured) that Ian Gilmour and his team use to understand the toxicology of wildland fire smoke emissions.



Wayne Cascio and Jennifer Orme-Zavaleta at the Society of Toxicology's Annual Meeting in Baltimore, Maryland last week.